



KULKARNI LABORATORY & QUALITY MANAGEMENT SERVICES

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NABL ACCREDITED LABORATORY (T-2201)
(For scope refer www.nabl-india.org)

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To,
SAMVID INTERNATIONAL PVT LTD.
Block no 301,302 Tajashree business centre
Gandhi putla opp. Renuka mata mandir,
Central avenue road Nagpur – 440 002

**Subject : Testing of water quality produced by
Oxyaura alkaline pitcher and Samvid elite.**

INTRODUCTION

Two products from Samvid International Nagpur i.e oxyaura alkaline pitcher and Samvid elite were received in our laboratory for testing the output of water from these equipments under different stages / varieties of input water.

PROCEDURE

In order to check the quality of output water from oxyaura alkaline pitcher & samvid elite following varieties of input water is used.

- 1] Bore water** -- Six types based on TDS
- 2] Acidic water** -- 2 types of water, purified using chlorination.
- 3] Corporation water** -- 1 water sample of corporation water.
- 4] RO water** -- 1 water purified through reverse osmosis method.

Above four types of water were used as such as input material for oxyaura alkaline pitcher and samvid elite. Input water was not purified through RO before passing through oxyaura alkaline pitcher and samvid elite. The output water i.e. passed through oxyaura alkaline pitcher and samvid elite is tested for various parameters of drinking water to specification IS 10500-2012.

The test results obtained are compiled as **Appendix - A**

Out of above some important parameters which have been chosen depending upon their criticality the output water from oxyaura alkaline pitcher and samvid elite have been tested.

The test results are enclosed in **Appendix - B**

DISCUSSION

From the test results obtained from variety of input waters following observations are made

- 1] The input water which may be acidic or neutral when passed through oxyaura alkaline pitcher and samvid elite changes towards alkaline side.
- 2] Oxyaura alkaline pitcher and samvid elite reduce conductivity and TDS of output water.
- 3] Slight reduction in chlorides is found.
- 4] The acidic water due to presence of free chlorine when passed through oxyaura alkaline pitcher and samvid elite as input water, the output water found to be completely changes into alkaline water.
- 5] The importance ORP can not be ruled out. It is found that when all the various types of waters used as input water. The two equipments gave the water with Alkaline side and the ORP found to be reducing. ORP when instantly checked was found in range -200 to -400 mV.

Reducing ORP indicates the water has antioxidant parameters and same is confirmed in our testing.

CONCLUSION

On perusal of test results given in appendix- A & B and from observations made above the oxyaura alkaline pitcher and Samvid elite with variety of input water, gives output water with some reduction in conductivity, TDS, chlorides and changes the pH from acidic & neutral side to alkaline side.

The negative ORP indicates increased antioxidant property of output water

Appendix - A

Appendix - A-1

Sr. No.	Test Parameters	Unit	Limits	Bore Water A		Bore Water B		Bore Water C	
				Before	After	Before	After	Before	After
1.	pH	-	6.5 – 8.5	8.3	8.6	7.6	8.3	7.8	8.2
2.	Conductivity	mS/cm	--	1.309	1.304	0.701	0.672	1.046	1.011
3.	Total Hardness (as CaCO ₃)	mg/lit	200	844	775	355	267	814	797
4.	Calcium Hardness (as Ca)	mg/lit	75	177	126	102	65	196	161
5.	Total Solids	mg/lit	--	1100	1030	460	400	940	900
6.	Total Dissolved Solids	mg/lit	500	1100	1030	460	400	940	900
7.	Total Suspended Solids	mg/lit	--	Nil	Nil	Nil	Nil	Nil	Nil
8.	Chlorides, as (Cl) ⁻	mg/lit	250	221	203	76	62	112	101
9.	Sulphate, as(SO) ₄ ²⁻	mg/lit	200	25	25	250	20	20	20
10.	P-Alkalinity	mg/lit	--	27	52	Nil	21	Nil	21
11.	M-Alkalinity	mg/lit	200	469	423	258	237	407	392

Appendix - A-2

Sr. No.	Test Parameters	Unit	Limits	Bore Water D		Bore Water E		Bore Water F	
				Before	After	Before	After	Before	After
1.	pH	-	6.5 – 8.5	7.8	8.7	7.2	8.2	7.2	8.3
2.	Conductivity	mS/cm	--	0.714	0.687	0.347	0.329	0.821	0.805
3.	Total Hardness (as CaCO ₃)	mg/lit	200	432	383	255	226	589	540
4.	Calcium Hardness (as Ca)	mg/lit	75	114	90	71	55	141	110
5.	Total Solids	mg/lit	--	540	490	310	270	720	690
6.	Total Dissolved Solids	mg/lit	500	540	490	310	270	720	690
7.	Total Suspended Solids	mg/lit	--	Nil	Nil	Nil	Nil	Nil	Nil
8.	Chlorides, as (Cl) ⁻	mg/lit	250	65	54	33	33	101	90
9.	Sulphate, as(SO) ₄ ²⁻	mg/lit	200	15	15	08	08	15	15
10.	P-Alkalinity	mg/lit	--	Nil	41	Nil	10	Nil	21
11.	M-Alkalinity	mg/lit	200	320	247	124	119	278	242

Appendix - A-2

Sr. No.	Test Parameters	Unit	Limits	Acidic Water A		Acidic Water B	
				Before	After	Before	After
1.	pH	-	6.5 – 8.5	6.2	8.5	5.9	8.2
2.	Conductivity	mS/cm	--	0.233	0.159	0.24	0.171
3.	Total Hardness (as CaCO ₃)	mg/lit	200	76	64	81	76
4.	Calcium Hardness (as Ca)	mg/lit	75	21	21	26	21
5.	Total Solids	mg/lit	--	160	120	160	130
6.	Total Dissolved Solids	mg/lit	500	160	120	160	120
7.	Total Suspended Solids	mg/lit	--	Nil	Nil	Nil	Nil
8.	Chlorides, as (Cl) ⁻	mg/lit	250	43	11	62	55
9.	Sulphate, as(SO) ₄ ²⁻	mg/lit	200	15	15	20	20
10.	P-Alkalinity	mg/lit	--	Nil	10	Nil	05
11.	M-Alkalinity	mg/lit	200	21	41	10	37
12.	Residual Free Chlorine	mg/lit	0.2	0.6	Nil	0.4	Nil

Sr. No.	Test Parameters	Unit	Limits	Corporation Water		R O Water	
				Before	After	Before	After
1.	pH	-	6.5 – 8.5	6.8	8.7	6.7	8.3
2.	Conductivity	mS/cm	--	0.78	0.69	0.08	0.076
3.	Total Hardness (as CaCO ₃)	mg/lit	200	41	36	09	09
4.	Calcium Hardness (as Ca)	mg/lit	75	10	10	04	04
5.	Total Solids	mg/lit	--	80	80	40	40
6.	Total Dissolved Solids	mg/lit	500	80	80	40	40
7.	Total Suspended Solids	mg/lit	--	Nil	Nil	Nil	Nil
8.	Chlorides, as (Cl) ⁻	mg/lit	250	14	10	07	04
9.	Sulphate, as(SO) ₄ ²⁻	mg/lit	200	05	05	04	04
10.	P-Alkalinity	mg/lit	--	Nil	05	Nil	05
11.	M-Alkalinity	mg/lit	200	41	32	15	10
12.	Residual Free Chlorine	mg/lit	0.2	0.6	Nil	Nil	Nil

Appendix B

Appendix B-1

Sr. No.	Test Parameters	Unit	Bore Water		Corporation Water		RO Water	
			Before	After	Before	After	Before	After
I. PHYSICAL ANALYSIS								
1.	pH	-	7.4	8.1	6.9	8.5	6.7	8.3
2.	Conductivity	mS/cm	0.476	0.309	0.2	0.17	0.08	0.076
II. CHEMICAL ANALYSIS								
3.	Total Dissolved Solids	mg/lit	360	340	100	80	40	40
4.	Chlorides, as (Cl) ⁻	mg/lit	42	35	17	10	7	4
5.	P-Alkalinity	mg/lit	Nil	15	Nil	20	Nil	20
6.	M-Alkalinity	mg/lit	249	223	56	41	17	10
7.	Free residual chlorine	mg/lit	Nil	Nil	0.6	Nil	Nil	Nil
8.	Oxidation reduction Potential	mV	333	-268	292	-193	271	-147

Appendix B-2

Sr. No.	Test Parameters	Unit	Storage Tank Water		Corporation water: Treated by Samvid Elite	
			Before	After	Before	After
I. PHYSICAL ANALYSIS						
1.	pH	-	7.8	8.6	6.9	8.2
2.	Conductivity	mS/cm	0.43	0.38	0.276	0.21
II. CHEMICAL ANALYSIS						
3.	Total Dissolved Solids	mg/lit	240	200	140	100
4.	Chlorides, as (Cl) ⁻	mg/lit	10	07	20	117
5.	P-Alkalinity	mg/lit	Nil	23	Nil	20
6.	M-Alkalinity	mg/lit	41	36	71	56
7.	Free residual chlorine	mg/lit	0.2	Nil	0.2	Nil
8.	Oxidation reduction Potential	mV	249	-138	378	-242